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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/840,114

05/06/2004

Heinfried Hoffmann

P04,0153

7271

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7590

12/29/2005

SCHIFF HARDIN, LLP
PATENT DEPARTMENT
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EXAMINER

BARAN, MARY C

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/840,114

Applicant(s)

HOFFMANN ET AL.

Examiner

Mary Kate B. Baran

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2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The action is responsive to the Amendment filed on 6 October 2005. Claims 1-17 are pending. Claims 1 and 3 are amended.

2. The amendments filed 6 October 2005 are sufficient to overcome the prior objections to the specification and claims and the prior 35 U.S.C. 112 second paragraph.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garvey et al. (U.S. Patent No. 6,286,764) (hereinafter Garvey) in view of Berger et al. (U.S. Patent No. 6,785,599) (hereinafter Berger).

Referring to claim 1, Garvey teaches a method to test operating safety of a process control device comprising a control element and an actuator to move the control element (see Garvey, column 5 lines 7-12), a position controller in a safety circuit, the actuator being coupled to a control unit that is connected to the position controller for exchange of control signals, such that the actuator can be operated by

way of the control unit to move the control element and the control element can be moved from an initial condition to a final condition in the event of an incident by a control of the actuator by the control unit (see Garvey, column 5 lines 52-66), and a test cycle for the process control device comprising: generating a control signal for partial movement of the control element aided by the position controller (see Garvey, column 6 lines 26-28); transferring the control signal from the position controller to the control unit via a signal connection (see Garvey, column 6 lines 28-34); and returning the control element to the initial condition (see Garvey, column 8 lines 22-28), but does not teach controlling the actuator dependent on the control signal aided by the control unit to operate the actuator for the partial movement of the control element from the initial condition or detecting, via a measurement device, measurement signals that indicate the partial movement of the control element from the initial condition.

Berger teaches controlling the actuator dependent on the control signal aided by the control unit to operate the actuator for the partial movement of the control element from the initial condition (see Berger, column 15 lines 15-30); and detecting, via a measurement device, measurement signals that indicate the partial movement of the control element from the initial condition (see Berger, column 15 lines 31-44).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Garvey to include the teachings of Berger because having a controller and a measurement device would have allowed the skilled artisan to supply control signals in accordance with a predetermined characteristic (see Berger, column 3

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lines 42-51) and detect movement in the positions of components (see Berger, column 3 lines 64-67).

Referring to claim 2, Garvey teaches detecting time resolved path signals upon detection of the measurement signals with the aid of the measurement device (see Garvey, column 8 lines 14-34).

Referring to claim 3, Garvey teaches determining movement parameters from the detected time resolved path signals (see Garvey, column 8 lines 14-34).

Referring to claim 4, Garvey teaches executing a leakage measurement upon detection of the measurement signals, aided by the measurement device (see Garvey, column 13 lines 21-28).

Referring to claim 5, Garvey teaches electronically logging of a course of the test cycle and electronically storing the course in a storage device (see Garvey, column 10 line 66 – column 11 line 15).

Referring to claim 6, Garvey teaches activating the test cycle for the process control device utilizing a remote control (see Garvey, column 13 lines 8-21).

Referring to claim 7, Garvey teaches partially venting the actuator, which is a pneumatic actuator, to partially move the control element as a reaction to the controlling by the control unit (see Garvey, column 5 lines 63-66).

Referring to claim 8, Garvey teaches partially hydraulically operating the actuator, which is a hydraulic actuator, to partially move the control element as a reaction to the controlling by the control unit (see Garvey, column 5 lines 63-66).

Referring to claim 9, Garvey teaches a device to test the operating safety of a process control device, comprising: a control element (see Garvey, column 5 lines 7-12); an actuator to move the control element (see Garvey, column 5 lines 52-66); a position controller in a safety circuit (see Garvey, column 11 lines 7-15); the position controller comprising a control signal generator configured to generate a control signal for a partial movement of the control element in the course of a test cycle for the process control device (see Garvey, column 6 lines 26-28), and to transmit the control signal via a signal connection from the position controller to the control unit (see Garvey, column 6 lines 28-34), but does not teach a control unit that is connected with the position controller configured to exchange control signals and is coupled to the actuator, such that the actuator can be operated via the control unit to move the control element in order to move the control element from an initial condition to a final condition in the event of incident with the aid of a controlling of the actuator by the control unit or a

measurement device configured to acquire measurement signals that indicated a movement of the control element from the initial condition.

Berger teaches but does not teach a control unit that is connected with the position controller configured to exchange control signals and is coupled to the actuator, such that the actuator can be operated via the control unit to move the control element in order to move the control element from an initial condition to a final condition in the event of incident with the aid of a controlling of the actuator by the control unit (see Berger, column 15 lines 15-30) or a measurement device configured to acquire measurement signals that indicated a movement of the control element from the initial condition (see Berger, column 15 lines 31-44).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Garvey to include the teachings of Berger because having a controller and a measurement device would have allowed the skilled artisan to supply control signals in accordance with a predetermined characteristic (see Berger, column 3 lines 42-51) and detect movement in the positions of components (see Berger, column 3 lines 64-67).

Referring to claim 10, Garvey teaches that the control unit and the position controller are redundantly coupled to the actuator to operate the actuator (see Garvey, column 5 lines 52-66).

Referring to claim 11, Garvey teaches that the actuator is a pneumatic actuator (see Garvey, column 5 lines 63-66).

Referring to claim 12, Garvey teaches that the actuator is a hydraulic actuator (see Garvey, column 5 lines 63-66).

Referring to claim 15, Garvey teaches a suppression device to suppress the generation of the control signal for the partial movement of the actuator in the course of the test cycle (see Garvey, column 11 lines 7-15).

Referring to claim 16, Garvey teaches a storage device configured to store electronic information concerning the test cycle (see Garvey, column 10 line 66 – column 11 line 15).

Referring to claim 17, Garvey teaches an evaluation device configured to automatically evaluate the measurement signals that indicate a movement of the control element from the initial condition (see Garvey, column 7 lines 44-65).

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garvey et al. (U.S. Patent No. 6,286,764) (hereinafter Garvey) in view of Berger et al. (U.S. Patent No. 6,785,599) (hereinafter Berger) and in further view of Rosenberg (U.S. Patent No. 6,300,937).

Referring to claim 13, Garvey teaches all the features of the claimed invention except that the measurement device comprises a motion sensor configured to detect the partial movement of the control element.

Rosenberg teaches that the measurement device comprises a motion sensor configured to detect the partial movement of the control element (see Rosenberg, column 8 line 66 – column 9 line 3).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Garvey to include the teachings of Rosenberg, because having a motion sensor in the feedback loop would have allowed the skilled artisan to detect any deliberate or unwanted motion for normal control or alarm generation, respectively.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garvey et al. (U.S. Patent No. 6,286,764) (hereinafter Garvey) in view of Berger et al. (U.S. Patent No. 6,785,599) (hereinafter Berger) and in further view of Scheideler (U.S. PG-Pub No. US2003/0188583).

Referring to claim 14, Garvey teaches all the features of the claimed invention except that the measurement device comprises a sound sensor configured to detect the partial movement of the control element.

Scheideler teaches that the measurement device comprises a sound sensor configured to detect the partial movement of the control element (see Scheideler, page 4 [0088]).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Garvey to include the teachings of Scheideler, because having a sound sensor in the feedback loop would have allowed the skilled artisan to detect any deliberate or unwanted vibration for normal control or alarm generation, respectively.

Response to Arguments

6. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Garvey does not teach controlling the actuator dependent on the control signal aided by the control unit to operate the actuator for the partial movement of the control element from the initial condition or detecting, via a measurement device, measurement signals that indicate the partial movement of the control element from the initial condition; however, these limitations are now met by Berger. Berger teaches controlling the actuator dependent on the control signal aided by the control unit to operate the actuator for the partial movement of the control element from the initial condition (see Berger, column 15 lines 15-30); and detecting, via a measurement device, measurement signals that indicate the partial movement of the control element from the initial condition (see Berger, column 15 lines 31-44). It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Garvey to include the teachings of Berger because having a controller and a measurement device would have allowed the skilled artisan to supply control signals in

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accordance with a predetermined characteristic (see Berger, column 3 lines 42-51) and detect movement in the positions of components (see Berger, column 3 lines 64-67).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(a) Bohm teaches a method and device for monitoring the movements of an actuator.

(b) Loscher et al. teach a procedure for regulating the temperature of a material to be processed in a processing chamber and device to accomplish this.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday - Friday from 9:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

22 December 2005

